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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/022,983	12/17/2001	Kevin L. Morgan	HE0172	4227

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EXAMINER

BRINEY III, WALTER F

ART UNIT	PAPER NUMBER
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2644

DATE MAILED: 07/30/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/022,983

Applicant(s)

MORGAN ET AL.

Examiner

Walter F Briney III

Art Unit

2644

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 17 May 2004.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-17, 19 and 20 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-17, 19 and 20 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

DETAILED ACTION

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1, 5, 7, 8, 9, 13, 15, and 16 are rejected under 35 U.S.C. 103(a) as being unpatentable over Miller (US Patent 6,738,474) in view of Bliven et al. (US Patent 5,598,455).

Claim 1 is limited to **an apparatus for interconnecting customer premises equipment with a digital subscriber line (DSL) at a location remote from a telephone company central office**. Miller discloses a system for providing POTS filters (i.e. POTS/DSL splitting filter) externally with respect to DSLAM and other remote terminal racks. As depicted in figure 5, Miller intends for channel banks (3) and DSLAM (36) to be within one area of a remote terminal cabinet, while low pass filtering equipment is stored in an entirely separate area referred to as a splice chamber (56). By separating the DSLAM and the POTS filters, Miller discloses that more DSLAM units can be integrated into a remote terminal, and electromagnetic interference is reduced (column 2, line 66-column 3, line 13). While Miller discloses the concept of separating the DSLAM equipment and the POTS filters, only general figures are presented to support the idea. Therefore, Miller anticipates all limitations of the claim with the exception of **a housing**. Bliven discloses a two-chambered remote terminal (figures 14

and 15). The top chamber (i.e. **a telecommunications enclosure**) houses line card circuitry (i.e. DSLAM equipment of Miller) and a lower chamber (i.e. **a housing**) containing the metallic subscriber connections (column 27, line 11-column 30, line 30). Clearly, the top and bottom portion define separate chambers where the components would be sufficiently isolated as required by Miller. It would have been obvious to implement a combined POTS/DSL remote terminal using the two-chambered terminal as taught by Bliven for the purpose of supplying a two-chambered housing as required by Miller, which effectively reduces the area of each DSLAM, allowing for higher integration at one site. With further reference to figures 14 and 15 of Bliven, it is clear that an interior cavity exists within the lower portion of the remote terminal (i.e. **a base defining an interior cavity**), where the circuitry of the bottom and top are coupled by way of a pin and slot arrangement (1424, 1426) (i.e. **and adapted to be operatively coupled with termination equipment located within the interior of a telecommunications enclosure through an exterior wall of the telecommunications enclosure at the location remote from the telephone company central office**). Figure 15 depicts a hinged (1432) cover (1436) (i.e. **and a cover moveably attached to the base and adapted to be opened and closed thereon**). As stated above, Miller requires that DSL/POTS splitters be separated from each other, in separate chambers of a remote terminal. In view of Bliven, the line circuitry is housed in an upper chamber (1402) leaving the lower chamber (1430) as the location for splitter circuitry (i.e. **at least one xDSL/POTS splitter positioned within the interior cavity defined by the base to permit access to the xDSL/POTS splitter**

without entering the telecommunications enclosure). Miller discloses by way of figure 10 that remote terminals receive DSL signals and POTS signals, where remote terminals inherently receive signals from a central location, and combine them onto a single transmission line (i.e. **the xDSL/POTS splitter combining a POTS signal and a data signal from the telephone company central office into a combined signal on the DSL**). In addition, the signals received from the transmission line are split using at least a POTS filter (46) (i.e. **separating the combined signal on the DSL from the customer premises equipment into the POTS signal and the data signal**).

Therefore, Miller in view of Bliven makes obvious all limitations of the claim.

Claim 5 is limited to **the apparatus according to claim 1**, as covered by Miller in view of Bliven. Bliven discloses the physical structure of a two-chambered remote terminal that would have been obvious to use in the implementation of the two-chambered remote terminal disclosed by Miller. In figures 14 and 15 of Bliven, a pin and slot arrangement (1424 and 1426) form an opening sealed, where the slot acts as a sealing **conduit**. The pin and slot arrangement allows the incoming telephone office and subscriber loop wires to be connected between the upper and lower chamber (column 27, lines 47-56) (i.e. **wherein the base has at least one opening formed therethrough for receiving a conduit connecting the housing to the telecommunications enclosure at the location remote from the telephone company central office**). Therefore, Miller in view of Bliven makes obvious all limitations of the claim.

Claim 7 is limited to **the apparatus according to claim 5**, as covered by Miller in view of Bliven. As is clear from figures 14 and 15 of Miller, the pin and slot arrangement is sealed to the bottom chamber (i.e. **wherein the conduit sealingly engages the base**). In addition, Miller discloses that the hinged (1432) covering of the bottom chamber prevents influx from rainfall (column 27, lines 31-46) (i.e. **wherein the cover is hingedly attached to and sealingly engages the base such that the housing is substantially rainproof when the cover is closed on the base**). Therefore, Miller in view of Bliven makes obvious all limitations of the claim.

Claim 8 is limited to **the apparatus according to claim 1**, as covered by Miller in view of Bliven. Miller discloses using high-pass filters to prevent POTS signals from corrupting the DSL signals (figure 10, element 46) (i.e. **wherein the xDSL/POTS splitter comprises at least one of a low-pass filter for passing the POTS signal and a high-pass filter for passing the data signal**). Therefore, Miller in view of Bliven makes obvious all limitations of the claim.

Claims 9, 13, 15, and 16 are essentially the same as claims 1, 5, 7, and 8, respectively, and are rejected for the same reasons.

Claims 2-4 and 10-12 are rejected under 35 U.S.C. 103(a) as being unpatentable over Miller in view of Bliven and further in view of Viadella et al. (US Patent 6,385,315).

Claim 2 is limited to **the apparatus according to claim 1**, as covered by Miller in view of Bliven. Miller discloses separating POTS filters and DSLAM equipment, Bliven teaches a two-chambered structure for use in the implementation of the Miller patent, yet neither have described the physical structure of the POTS filters. Therefore, Miller

in view of Bliven makes obvious all limitations of the claim with the exception **wherein the xDSL/POTS splitter is provided on a circuit card having a board edge connector**. Viadella teaches a POTS filter shelf (abstract), the cards are separate from the DSLAM, allowing them to be inserted into a separate chamber. The shelf is depicted in figure 1, it includes a backplane circuit board (i.e. **and wherein the apparatus further comprises a back-plane circuit board positioned within the interior cavity defined by the base**) with numerous Eurocard connectors (36) for insertion of a filter card where each filter card includes a Eurocard connector (figure 1) (i.e. **having at least one card socket connector for receiving the board edge connector of the circuit card**). The connectors render the card and backplane conductive with respect to each other. It would have been obvious to one of ordinary skill in the art at the time of the invention to use the card and backplane arrangement taught by Viadella for the purpose of providing POTS filter circuitry that is easily maintainable and includes a high-density of filters per card, increasing overall remote terminal capacity (column 1, line 57-column 2, line 10).

Claim 3 is limited to **the apparatus according to claim 2**, as covered by Miller in view of Bliven and further in view of Viadella. Viadella discloses in figure 1, a POTS filter shelf that contains a backplane circuit board that is connected to a POTS filter by way of a Eurocard connector. The backplane is also connected to a subscriber terminal and central office communications by way of wires (74, 76, etc...). The Eurocard connector acts to couple the POTS filter to these wires (i.e. **further comprising at least one wire connector positioned within the interior cavity defined by the base and**

electrically connected to the back-plane circuit board so that the wire connector is in electrical communication with the xDSL/POTS splitter through the back-plane circuit board). Therefore, Miller in view of Bliven and further in view of Viadella makes obvious all limitations of the claim.

Claim 4 is limited to **the apparatus according to claim 3**, as covered by Miller in view of Bliven and further in view of Viadella. Even though Viadella discloses a Eurocard interface between the backplane and each POTS filter (figure 1), Viadella does not disclose the interface between the backplane and the central office and subscriber wires. Therefore, Miller in view of Bliven and further in view of Viadella makes obvious all limitations of the claim with the exception **wherein the at least one wire connector is selected from the group consisting of a screw terminal and an insulation displacement contact (IDC) terminal**. The examiner takes Official Notice of the fact that IDC and screw terminals are well known methods of interfacing communication wires to a PCB. It would have been obvious to one of ordinary skill in the art at the time of the invention to use either IDC or screw terminals for the purpose of connecting central office and subscriber lines to the backplane of a POTS filter shelf.

Claims 10-12 are essentially the same as claims 2-4, respectively, and are rejected for the same reasons.

Claims 6, 14, and 17 are rejected under 35 U.S.C. 103(a) as being unpatentable over Miller in view of Bliven and further in view of Czerwec et al. (US Patent 6,314,102).

Claim 6 is limited to **the apparatus according to claim 5**, as covered by Miller in view of Bliven. As shown in claim 1, a remote terminal includes a DSLAM and a

channel bank, where each is connected to a respective data network. While it is clear that the data streams are distinct, Miller does not disclose how the data is transmitted to the remote terminal. Therefore, Miller in view of Bliven makes obvious all limitations of the claim with the exception **wherein the POTS signal is provided on a first telephone line from the telephone company central office and the data signal is provided on a second telephone line from the telephone company central office.** Czerwiec teaches a system of distributing both DSL and POTS service to a subscriber via a remote terminal. As seen in figure 2, the remote terminal receives central office data streams over two separate wires (50, 58). It would have been obvious to one of ordinary skill in the art at the time of the invention to deliver DSL and POTS over two separate telephone wires as taught by Czerwiec for the purpose of delivering the separate data streams used by Miller. It was shown in claim 5 that the pin and slot arrangement of Miller connects the network cards with the subscriber connections. It can be seen in figures 14 and 15 of Miller that the central office lines enter the bottom chamber and the subscriber loops exit the bottom chamber. Because each line must be processed by the circuitry in the upper chamber, the pin and slot arrangement inherently **provides a wire-way for routing the DSL, the first telephone line, and the second telephone line between the telecommunications enclosure and the housing.** Therefore, Miller in view of Bliven and further in view of Czerwiec makes obvious all limitations of the claim.

Claims 14 and 17 are essentially the same as claim 6, and are rejected for the same reasons.

Claims 19 and 20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Miller in view of Bliven in view of Czerwec and further in view of Viadella.

Claims 19 and 20 are dependent on the method according to claims 18 and 19, respectively. The claims are directed toward the physical structure of the POTS filter section. As shown in claims 2 and 3, neither Miller nor Bliven discloses the kind of POTS filter to use, but Viadella provides teaching and motivation to use filters distributed on cards that interconnect with a backplane circuit board (figure 1). For the same reasons as in claims 2 and 3, it would have been obvious to one of ordinary skill in the art to use POTS filters manufactured on cards that interconnect with a backplane circuit as taught by Viadella for the purpose of supplying POTS filter circuitry that is easily maintainable and includes a high-density of filters per card, increasing overall remote terminal capacity (column 1, line 57-column 2, line 10).

Response to Arguments

Applicant's arguments with respect to claims 1-17, 19, and 20, filed 17 May 2004, have been considered but are moot in view of the new ground(s) of rejection.

Claim 18 has been cancelled.

Conclusion

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP

§ 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Walter F Briney III whose telephone number is 703-305-0347. The examiner can normally be reached on M-F 8am - 4:30pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Forester W Isen can be reached on 703-305-4386. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

WFB
7/23/04



XU MEI
PRIMARY EXAMINER